REMARKS/ARGUMENTS

Claims 1 through 21 remain in this application. Claims 1 through 21 were rejected under 35 U.S.C. 102(e) as being anticipated by US 2004/0109683 A1 to Mistry et al (the Mistry reference). However, the Office Action has failed to meet the requirements under 35 U.S.C. 102(e) for rejection of the claims. The Office Action fails to show how the Mistry reference shows each and every element of the claims. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Independent Claim 1 and dependent Claims 2 through 8

Independent Claim 1 states that, "responsive to a failure in an active lightpath, switching traffic on the active lightpath to a protection path; subsequent to the switching, identifying all active lightpaths in the network that no longer have an available protection path; and attempting to allocate a protection path to each of the identified active lightpaths." As stated in the specification in paragraph 25, one embodiment of the present invention is a protection scheme. When a failure occurs, the working lightpath affected by the fault will resort to its protection resources maintaining service unaffected. As a result, some of the active lightpaths will not have sufficient protection resources to provide survivability against an additional failure. As discussed in paragraph 34 with respect to Figure 3, after a first failure disrupting a link, disrupted working paths are switched to their respective protection paths. Any orphan connections that no longer have an available protection path are identified. As stated in paragraph 35, successive attempts are made to find protection resources for all of the identified orphan connections.

The Mistry reference fails to disclose any of these elements of the claims. First, the Mistry reference fails to disclose, "responsive to a failure in an active lightpath, switching traffic on the active lightpath to a protection path." The Office Action cites Figs. 13-34, pages 4-6 and paragraphs 145-182 as showing this element of the claim. However, the Mistry reference no where discloses or deals with failures in an active lightpath. The Mistry reference is discussing planned re-routing of lightpaths by an operator. As stated in paragraph 102, it states that:

> "Non-disruptive lightpath routing changes are achieved using this invention via a combination of node software in the optical equipment nodes supporting fast bridge and roll, and CLI, EMS, or NMS software to create operator-directed new routing of protection branches and initiate roll operations to switch off old routing and onto new routing as required. in the event of a protection switch, software within the two end-point network elements' coordinate to move the connection from the working path ."

Again in paragraph 107, it states that "Under a controlled switch (ie. Operator initiated with no failure present in the system), a similar strategy is used as in the 1+1 protection case." Thus, the Mistry reference does not deal with failures in a lightpath, but with planned re-routing of lightpaths by an operator.

The Mistry reference also fails to disclose, "subsequent to the switching, identifying all active lightpaths in the network that no longer have an available protection path." Since the Mistry reference deals with planned re-routing of lightpaths, the protection lightpath is pre-planned before any switching. As stated in paragraph 165:

"M.times.N protection allows multiple lightpaths to be protected by a number of pre-defined protection lightpaths or lightpath routes, for example, 10 lightpaths are protected by 2 dedicated but shared protection routes."

Paragraphs 177 and 178 also state that:

> "If some time after initial creation and connection an operator needs to change the routing of a shared protection path (eg. shared protection path #2) without disrupting service, the operator merely has to add a new protection path or branch with the desired routing change, as shown in FIG. 32, then delete the original shared protection path (in this case shared protection path #2 was selected), as shown in FIG. 33.
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> If the new shared protection path routing desired overlaps with the original shared protection path then the original will need to disconnected or deleted prior to connecting the newly routed replacement protection path. In this example, the new routing doesn't conflict with the original shared protection path routing. As shown in FIG. 32, a replacement shared protection path is created and connected

> to provide uninterrupted protection until the replacement shared protection routing is created for Shared Protection Path #2."

Thus, in the Mistry reference the identification of a replacement shared protection path is created and connected prior to any failures by pre-planned operator re-routing of lightpaths. There is no identification of working paths without protection paths after switching from a failure.

Finally, the Mistry reference again fails to disclose, "attempting to allocate a protection path to each of the identified active lightpaths." As stated above, in the Mistry reference, the identification of a replacement shared protection path is created and connected prior to any failures. There is no identification of working paths without protection paths after switching from a failure.

Independent Claim 9 and dependent claims 10 through 14

Claim 9 states that responsive to a failure in the network, for each active lightpath affected by the failure, switching traffic from the affected active lightpath to a protection path thereof; subsequent to the switching, classifying as orphans all active lightpaths in the network that no longer have an available protection path as a result of the failure; and attempting to allocate a protection path to each of the orphans each time an active lightpath is released in the network.

The Mistry reference fails to disclose any of these elements of the claims. First, the Mistry reference fails to disclose, "responsive to a failure in the network, for each active lightpath affected by the failure, switching traffic from the affected active lightpath to a protection path thereof." The Office Action cites Figs. 13-34, pages 4-6 and paragraphs 145-182 as showing this element of the claim. However, the Mistry reference no where discloses or deals with failures in an active lightpath. The Mistry reference is discussing planned re-routing of lightpaths by an operator. As stated in paragraph 102, it states that:

> "Non-disruptive lightpath routing changes are achieved using this invention via a combination of node software in the optical equipment nodes supporting fast bridge and roll, and CLI, EMS, or NMS software to create operator-directed new routing of protection branches and initiate roll operations to switch off old routing and onto new routing as required. in the event of a

> protection switch, software within the two end-point network elements' coordinate to move the connection from the working path ."

Again in paragraph 107, it states that "Under a controlled switch (ie. Operator initiated with no failure present in the system), a similar strategy is used as in the 1+1 protection case." Thus, the Mistry reference does not deal with failures in a lightpath, but with planned re-routing of lightpaths by an operator.

The Mistry reference also fails to disclose, "subsequent to the switching, classifying as orphans all active lightpaths in the network that no longer have an available protection path as a result of the failure." The Mistry reference fails to disclose any type of identification or classification of orphans or active lightpaths that no longer have an available protection path as a result of the failure. Since the Mistry reference deals with planned re-routing of lightpaths, the protection lightpath is pre-planned before any switching. As stated in paragraph 165: "M.times.N protection allows multiple lightpaths to be protected by a number of pre-defined protection lightpaths or lightpath routes, for example, 10 lightpaths are protected by 2 dedicated but shared protection routes."

Paragraphs 177 and 178 also state that:

> "If some time after initial creation and connection an operator needs to change the routing of a shared protection path (eg. shared protection path #2) without disrupting service, the operator merely has to add a new protection path or branch with the desired routing change, as shown in FIG. 32, then delete the original shared protection path (in this case shared protection path #2 was selected), as shown in FIG. 33.
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> If the new shared protection path routing desired overlaps with the original shared protection path then the original will need to disconnected or deleted prior to connecting the newly routed replacement protection path. In this example, the new routing doesn't conflict with the original shared protection path routing. As shown in FIG. 32, a replacement shared protection path is created and connected to provide uninterrupted protection until the replacement shared protection routing is created for Shared Protection Path #2."

Thus, in the Mistry reference the identification of a replacement shared protection path is created and connected prior to any failures by pre-planned operator re-routing. There is no identification of orphan paths or working paths without protection paths after switching from a failure.

Finally, the Mistry reference fails to disclose, "attempting to allocate a protection path to each of the orphans each time an active lightpath is released in the network." As stated above, in the Mistry reference, the identification of a replacement shared protection path is created and connected prior to any failures. The Mistry reference does not describe any identification of orphan paths or monitoring of active lightpaths that may be released to allocate a protection path to an orphan.

Independent Claim 15 and claims 16 through 21

Independent claim 15 states, "means responsive to a failure in an active lightpath for switching traffic on the active lightpath to a protection path; means for identifying all active lightpaths in the network that no longer have an available protection path subsequent to the switching; and means for attempting to allocate a protection path to each of the identified active lightpaths each time an active lightpath is released in the network.

As explained above, the Mistry reference fails to disclose any of these elements of the claims. First, the Mistry reference fails to disclose, "means responsive to a failure in an active lightpath for switching traffic on the active lightpath to a protection path." The Office Action cites Figs. 13-34, pages 4-6 and paragraphs 145-182 as showing this element of the claim. However, the Mistry reference no where discloses or deals with failures in an active lightpath. The Mistry reference is discussing planned re-routing of lightpaths by an operator. As stated in paragraph 102, it states that:

> "Non-disruptive lightpath routing changes are achieved using this invention via a combination of node software in the optical equipment nodes supporting fast bridge and roll, and CLI, EMS, or NMS software to create operator-directed new routing of protection branches and initiate roll operations to switch off old routing and onto new routing as required. in the event of a protection switch, software within the two end-point network elements' coordinate to move the connection from the working path ."

Again in paragraph 107, it states that "Under a controlled switch (ie. Operator initiated with no failure present in the system), a similar strategy is used as in the 1+1 protection case." Thus, the Mistry reference does not deal with failures in a lightpath, but with planned re-routing of lightpaths by an operator.

The Mistry reference also fails to disclose, "means for identifying all active lightpaths in the network that no longer have an available protection path subsequent to the switching." Since the Mistry reference deals with planned re-routing of lightpaths, the protection lightpath is pre-planned before any switching. As stated in paragraph 165:

"M.times.N protection allows multiple lightpaths to be protected by a number of pre-defined protection lightpaths or lightpath routes, for example, 10 lightpaths are protected by 2 dedicated but shared protection routes."

Paragraphs 177 and 178 also state that:

> "If some time after initial creation and connection an operator needs to change the routing of a shared protection path (eg. shared protection path #2) without disrupting service, the operator merely has to add a new protection path or branch with the desired routing change, as shown in FIG. 32, then delete the original shared protection path (in this case shared protection path #2 was selected), as shown in FIG. 33.
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> If the new shared protection path routing desired overlaps with the original shared protection path then the original will need to disconnected or deleted prior to connecting the newly routed replacement protection path. In this example, the new routing doesn't conflict with the original shared protection path routing. As shown in FIG. 32, a replacement shared protection path is created and connected to provide uninterrupted protection until the replacement shared protection routing is created for Shared Protection Path #2."

Thus, in the Mistry reference the identification of a replacement shared protection path is created and connected prior to any failures by pre-planned operator re-routing. There is no identification of working paths without protection paths after switching from a failure.

Finally, the Mistry reference fails to disclose, "means for attempting to allocate a protection path to each of the identified active lightpaths each time an active lightpath is released in the network." As stated above, in the Mistry reference, the identification of a replacement shared protection path is created and connected prior to any failures. The Mistry reference does not describe any identification of orphan paths or monitoring of active lightpaths that may be released to allocate a protection path to an orphan.

CONCLUSION

Since the Office Action failed to meet the requirements under 35 U.S.C. 1102(e) of showing how the Mistry reference discloses each and every element of the claims, the rejection is traversed and it is believed that the Application in condition for allowance. Therefore, it is respectfully requested that the rejection of claims 1 through 21 be withdrawn and full allowance of the claims be granted. Should the Examiner have any further comments or suggestions, it is respectfully requested that the Examiner contact Jessica Smith to expeditiously resolve any outstanding issues.

Respectfully submitted,
ALCATEL LUCENT

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/Jessica W. Smith/

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